CLAIMS:

1. A magnetic reader comprising:

an MR sensor;

a domain wall free magnetic shield, further comprising:

first and second magnetic layers;

a non-magnetic layer separating the first and second magnetic layers; and

a biasing layer to maintain the first magnetic layer as a single domain, wherein the biasing layer additionally defines a quiet zone.

2. The magnetic reader of claim 1 wherein the quiet zone does not overlay the MR sensor.

3. The magnetic reader of claim 2 wherein the biasing layer is additionally spaced from the MR sensor.

4. The magnetic reader of claim 1 wherein the biasing layer is shaped so as to define a void in the biasing layer at the quiet zone.

5. The magnetic reader of claim 4 wherein the void in the biasing layer at the quiet zone is a void approximately corresponding to the size and shape of the MR sensor.

6. The magnetic reader of claim 4 wherein the void in the biasing layer at the quiet zone is a void roughly the width of the MR sensor extending through the biasing layer.

7. The magnetic reader of claim 1 wherein the biasing layer is a hard magnetic material.

8. The magnetic reader of claim 7 wherein the hard magnetic material is selected from the group consisting of: CoPt, CoCrPt, CoCrTa and CoPdCr.

9. The magnetic reader of claim 1 wherein the biasing layer is an antiferromagnetic material.

10. The magnetic reader of claim 9 wherein the antiferromagnetic layer is selected from the group consisting of: NiMn, NiMnCr, PtMn, PdPtMn, CrMnPt, CrMnCu, CrMnPd and PtRuMn.

11. The magnetic reader of claim 1 wherein the first and second magnetic layers are formed from one or more soft magnetic materials selected from the group consisting of: NiFe, cobalt amorphous alloys, FeN, permalloy and sendust.

12. The magnetic reader of claim 1 wherein a product of a thickness of first magnetic layer and a magnetic moment of first magnetic layer approximately equals a product of a thickness of second magnetic layer and a magnetic moment of the second magnetic layer.

13. The magnetic reader of claim 1 wherein an easy axis of the first magnetic layer is preferably parallel to an easy axis of the second magnetic layer.

14. The magnetic reader of claim 1 wherein a magnetization of the second magnetic layer is oriented antiparallel to a magnetization of the first magnetic layer due to demagnetization fields.

15. The magnetic reader of claim 1 wherein the biasing layer is oblique deposited.

16. A magnetic reader having an air bearing surface, the magnetic reader comprising:

an MR sensor; and

a magnetic shield comprising:

one or more layers of soft magnetic material, each layer being in a single domain state; and

a quiet zone with respect to the MR sensor that prevents transmitted dispersion in the shield from adversely affecting operation of the MR sensor.

17. The magnetic reader of claim 16 wherein the one or more plurality of layers of soft magnetic material comprise:

a unbiased magnetic layer; and

a biased magnetic layer positioned adjacent the MR sensor.

18. The magnetic reader of claim 17 wherein the magnetic shield additionally comprises:

a biasing layer contacting the biased magnetic layer wherein the biasing layer is shaped to not overlay the MR sensor at the air bearing surface; and

a non-magnetic layer between the biasing layer and the unbiased magnetic layer.

19. The magnetic reader of claim 17 wherein a magnetization of the unbiased layer is oriented antiparallel to a magnetization of the biased layer.

20. The magnetic reader of claim 17 wherein a product of a thickness of unbiased layer and a magnetic moment of unbiased layer approximately equals a product of a thickness of biased layer and a magnetic moment of biased layer.

21. The magnetic reader of claim 17 wherein the biasing layer is deposited by oblique deposition.

22. A shield for a read element of an MR sensor, the shield comprising:

a first magnetic layer;

a second magnetic layer having a thickness-magnetic moment product substantially equal to a thickness-magnetic moment product of the first magnetic layer, an easy axis of the second magnetic layer being substantially parallel to an easy axis of the first magnetic layer;

a nonmagnetic layer positioned between the first magnetic layer and the second magnetic layer; and

a bias layer positioned adjacent the first magnetic layer, the bias layer defining a quiet zone with respect to the read element that prevents transmitted dispersion in the shield from adversely affecting operation of the MR sensor.

23. The shield of claim 22 wherein the bias layer is a hard magnetic material deposited by oblique deposition.

24. The shield of claim 22 wherein a product of a thickness of unbiased layer and a magnetic moment of unbiased layer approximately equals a product of a thickness of biased layer and a magnetic moment of biased layer.

25. The shield of claim 22 wherein an easy axis of the unbiased layer is preferably parallel to an easy axis of the biased layer.

26. The shield of claim 22 wherein a magnetization of the unbiased layer is oriented antiparallel to a magnetization of the biased layer due to demagnetization fields.

27. The shield of claim 22 wherein the quiet zone is a shaped region of the bias layer such that the bias layer does not overlay the read element at the air bearing surface of the MR sensor.